

What is claimed is:

1 An electrical connector for interconnecting two printed circuit boards, comprising:

    a dielectric housing defining a passageway extending from a first face to a second face which is adjacent to the first face;

    an electrical contact received in the passageway and being moveable with respect to the housing; and

    a biasing spring arranged in the housing and applying a driving force to the contact.

2. The electrical connector as recited in claim 1, wherein the biasing spring comprises an insulator body abutting against the contact.

3. The electrical connector as recited in claim 1, wherein the passageway defines a first opening in the first face adapted for facing a first printed circuit board and a second opening in the second face adapted for facing a second printed circuit board which is perpendicular to the first printed circuit board.

4. The electrical connector as recited in claim 3, wherein the first and the second openings of the passageway are so dimensioned that a first and a second ends of the contact are free to move, the first and the second ends of the contact being adapted to move along the first and the second printed circuit boards, respectively.

5. The electrical connector as recited in claim 4, wherein the biasing spring applies a driving force to the first end of the contact.

6. The electrical connector as recited in claim 5, wherein the biasing spring urges the second end of the contact to protrude over the second face of the housing.
7. The electrical connector as recited in claim 5, wherein the first and the second faces are perpendicular to each other.
8. The electrical connector as recited in claim 5, further comprising an actuator coupled with the second end of the contact so as to move the first end of the contact along a first direction, and wherein the biasing spring applies a force to the contact tending to move the first end of the contact along a second direction opposite to the first direction.
9. The electrical connector as recited in claim 8, wherein the actuator comprises a main body made of a metal sheet and an insulator portion connected with the second end of the contact.
10. The electrical connector as recited in claim 1, further comprising an actuator applying a force to the contact so as to moveably actuate the contact.
11. An electrical connector for interconnecting two printed circuit boards, comprising:
  - a dielectric housing defining a plurality of passageways extending from a first face to a second face which is adjacent to the first face;
  - a plurality of electrical contacts each moveably received in a corresponding passageway; and
  - an actuator coupled with the contact so as to move the contact within the

passageway.

12. The electrical connector as recited in claim 11, wherein the actuator comprises an insulator portion defining a plurality of holes receiving first ends of the contacts.

13. The electrical connector as recited in claim 11, wherein the first and the second faces are perpendicular to each other.

14. An electrical connector assembly, comprising:

a printed circuit board;  
a first electrical connector mounted on the printed circuit board, the first electrical connector comprising a first dielectric housing, a plurality of first contacts received in the first housing and a first actuator to actuate the first contacts to move; and

a second electrical connector mounted on the printed circuit board in a substantially mirror-image manner relative to the first electrical connector, the second electrical connector comprising a second dielectric housing, a plurality of second contacts received in the second housing and a second actuator to actuate the second contacts to move.

15. The electrical connector assembly as recited in claim 14, wherein each of the first and the second contacts comprises a first end coupled with a corresponding one of the first and the second actuators and a second end.

16. The electrical connector assembly as recited in claim 15, wherein the first and the second actuators move in opposite directions to actuate the second ends of

the first and the second contacts to move in a same direction.

17. The electrical connector assembly as recited in claim 14, wherein the first and the second connectors respectively comprise first and second spring members, the first and the second spring members respectively comprising first and second insulators biasing against the first and the second contacts.

18. An electrical connector assembly comprising:  
first and second printed circuit boards spaced from each other;  
an electrical connector including an insulaitve housing extending along a longitudinal direction and having a plurality of juxtaposed contacts therein,  
said housing defining a first face along said longitudinal direction and directing to the first printed circuit board, and a second face along said longitudinal direction and directing to the second printed circuit board,  
each of said contacts defining a first end positioned around the first face and engagable with the first printed circuit board, and a second end positioned around the second face and engageable with the second printed circuit board; wherein  
said connector is fixedly mounted to one of said first printed circuit board and said second printed circuit board, and the other of said first printed circuit board and said second printed circuit board is assembled to said one of the first printed circuit board and the second printed circuit board along said longitudinal direction.

19. The assembly as recited in claim 18, wherein either said connector or said one of the first printed circuit board and said second printed circuit board is equipped with an actuator to move the contacts relative to the housing so as to not only allow a zero/lower insertion force of said other of the first printed circuit board and the second printed circuit board during assembling under a condition

that said actuator is moved to a first position, but also keep engagement between the first end of the contact and the first printed circuit board and the second end of the contact of the second printed circuit board after assembling under a condition that said actuator is moved to a second position.

20. The assembly as recited in claim 18, wherein said first and second printed circuit boards are perpendicular to each other.

21. An electrical connector assembly comprising:

- a plurality of spaced parallel printed circuit boards;
- a plurality of electrical connectors positionable upon said printed circuit boards, respectively, said connectors aligned with one another along a direction perpendicular to said printed circuit boards,
- each of said connectors including an insulative housing with a plurality of contacts therein, each of said contacts defining one section engagable with the corresponding printed circuit board; and
- an actuator extending in said direction and located close to said housing to move said contacts for mechanical and electrical engagement with the corresponding printed circuit boards.

22. The assembly as recited in claim 21, further including another printed circuit board perpendicular to said parallel spaced printed circuit board, and said connectors are fixed to said another printed circuit board.

23. An electrical connector assembly comprising:

- a printed circuit board;
- a plurality of parallel spaced electrical connectors secured to said printed

circuit board and aligned with one another in a direction, each of said connectors including an insulative housing with a plurality of contacts therein; and

a unitary actuator being associated with said printed circuit board and said connectors; wherein

said actuator is moveable in said direction to move said contacts relative to the corresponding housing.

24. The electrical connector assembly as recited in claim 23, wherein each of said contacts includes a first end engageable with the actuator and a second end retractable around one face of the corresponding house for achievement of either zero insertion force or reliable electrical and mechanical engagement of another printed circuit board with regard to the corresponding connector.